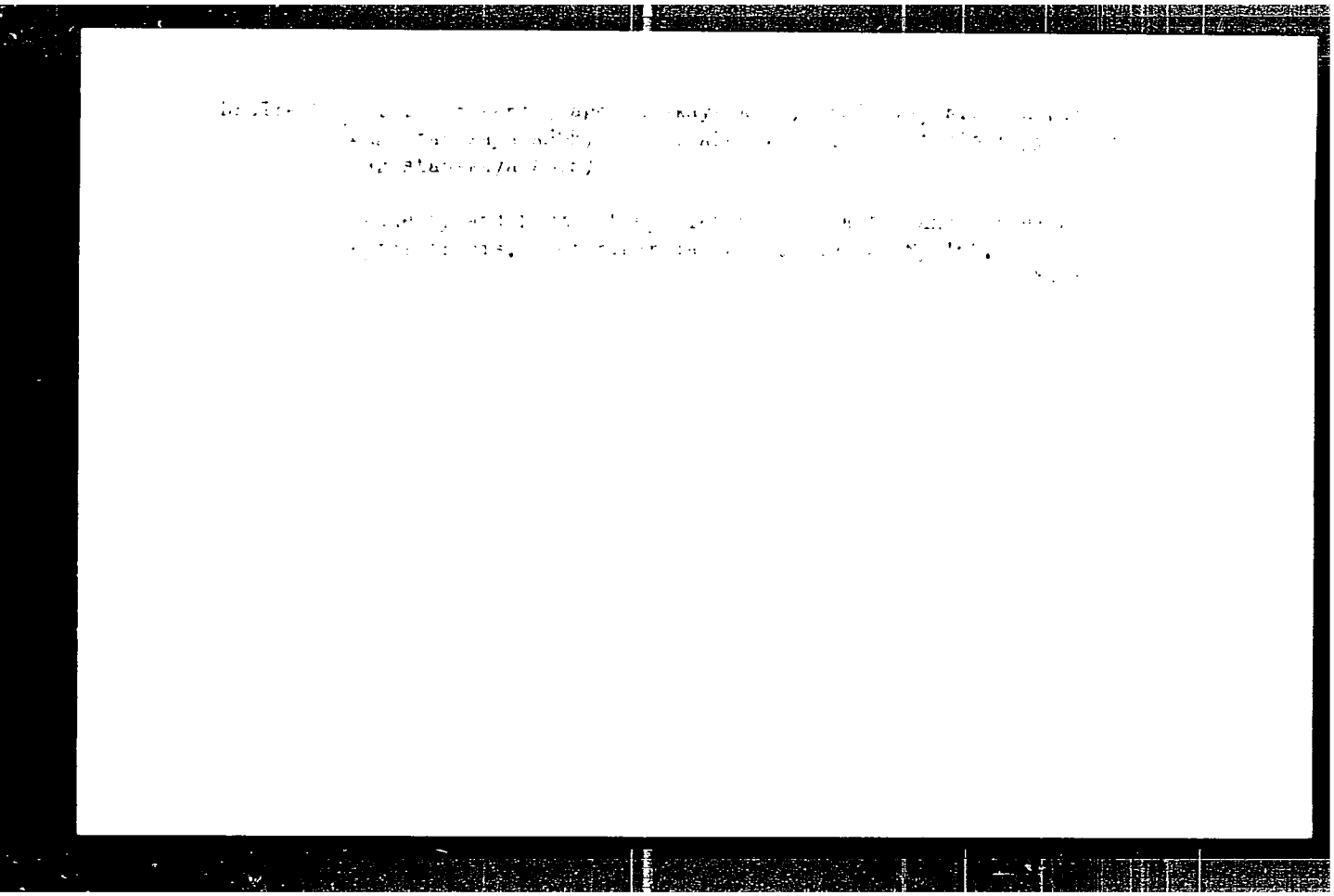
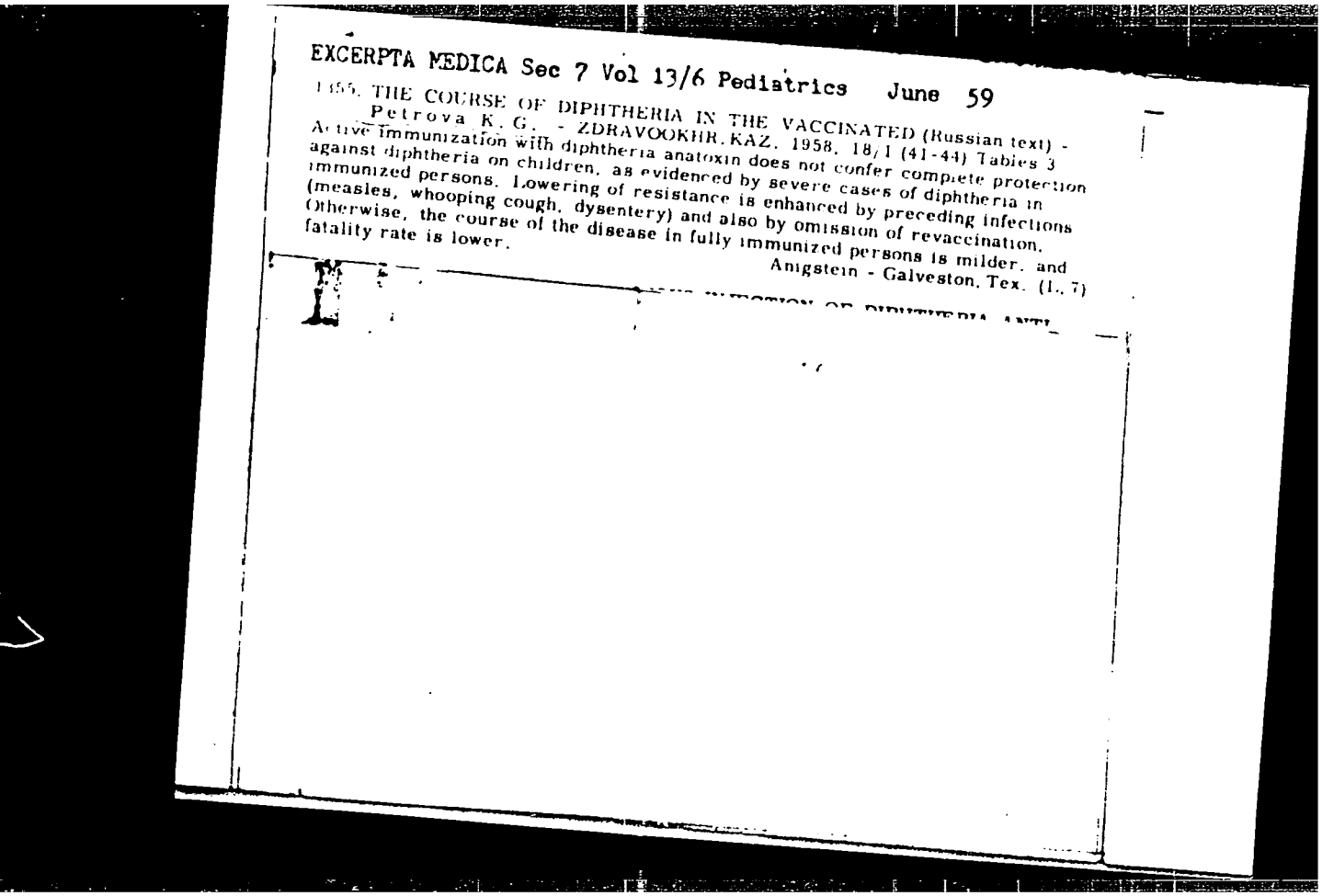
PETROVA, K. F.

"Testing of Metal Alloys for Resistance to Phosphoric acid," I. I. Zaring, A. I. Loginova, and K. F. Petrova, Korroziya i Borba s Ney VI, No 1, pp 4-9 (1940) (SEE: Inst. Insect/Fungi. in Ya. V. Damcylov)

SO: U-237/49, 6 April 1949

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240520018-8"





1155. THE COURSE OF DIPHTHERIA IN THE VACCINATED (Russian text) - Petrova K. G. - ZDRAVOOKHR. KAZ. 1958, 18/1 (41-44) Tables 3

Active immunization with diphtheria anatoxin does not confer complete protection against diphtheria on children, as evidenced by severe cases of diphtheria in immunized persons. Lowering of resistance is enhanced by preceding infections (measles, whooping cough, dysentery) and also by omission of revaccination. Otherwise, the course of the disease in fully immunized persons is milder, and fatality rate is lower.

Anigstein - Galveston, Tex. (L, 7)

PETROVA, K.G., kand. med. nauk; ABDIYEV, N.; KHALIDZHANOV, B.

Thromboembolism of the major vessels in children with toxic diphtheria of the pharynx with hemorrhagic syndrome. Pediatriia 42 no.8:94-95 Ag '63 (MIRA 17:4)

1. Iz kafedry detskikh infektsionnykh bolezney (zav. - dotsent T.N. Nikonova) Kazakhskogo meditsinskogo instituta i Detskoy klinicheskoy infektsionnoy Bol'nitsy No.2 (glavnyy vrach F.S. Sakova) , Alma-Ata.

PETROVA, K.G., assistent

Course of diphtheria in inoculated individuals. Zdrav. Kazakh. 18 no.1:41-44 '58. (MIRA 13:7)

1. Iz kafedry detskikh infektsionnykh bolezney pediatricheskogo fakul'teta (zav. - dotsent T.N.Nikonova) Kazakhskogo gosudarstvennogo meditsinskogo instituta.

(DIPHTHERIA)

PETROVA, K.G., kand.med.nauk; ABDIYEW, N.; KHABIZHANOV, B.

Thromboembolism of the large vessels in children with toxic diphtheria of the pharynx and hemorrhagic syndrome. Zdrav. Kazakh. 22 no.6:33-36 '62. (MIRA 15:11)

1. Iz kafedry detskikh infektsionnykh bolezney (zav. - dotsent T.N.Nikonova) Kazakhskogo meditsinskogo instituta i Detskoy klinicheskoy infektsionnoy bol'nitsy No.2 g. Alma-Aty (glavnyy vrach - F.S.Sakova).

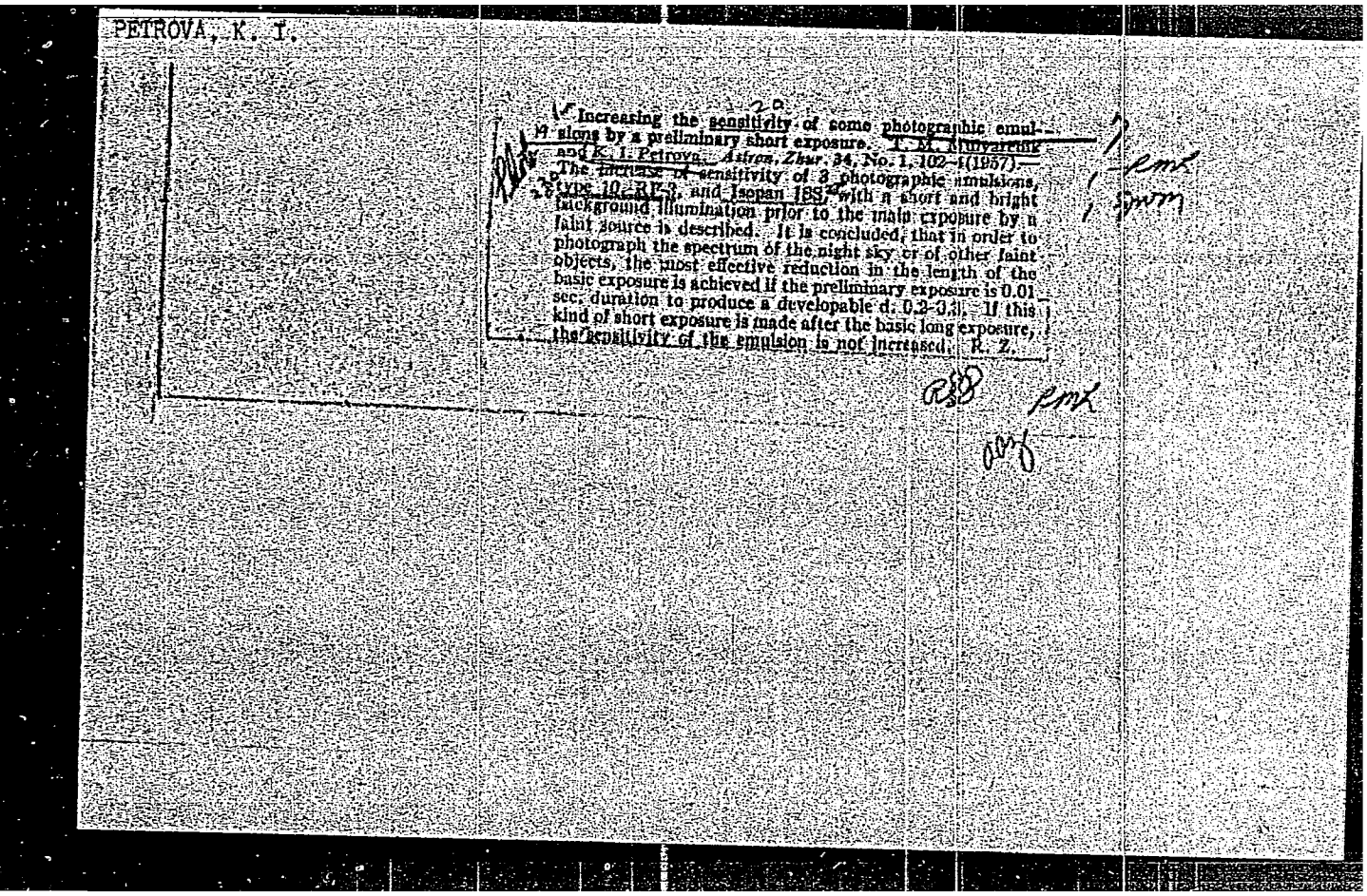
(DIPHTHERIA) (EMBOLISM) (HEMORRHAGE)

PETROVA, K.G., kand.med.nauk

Differential diagnosis of laryngitis of diphtherial and nondiphtherial etiology. Zdrav. kazakh. 22 no.1:66-69 '62. (MIRA 15:3)

1. Iz kafedry detskikh infektsionnykh bolezney (zav. - dotsent T.N. Nikonova) Kazakhskogo meditsinskogo instituta i 2-oy detskoy klinicheskoy infektsionnoy bol'nitsy g. Alma-Aty (glavnyy vrach - F.S. Sakova).
(LARYNX--DISEASES) (DIPHTHERIA)
(DIAGNOSIS, DIFFERENTIAL)

PETROVA, K. G., Cand Med Sci -- (diss) "Diphtheria in inoculated children in Alma-Ata. (From data of the Second Clinical Children's Infections Hospital)." Alma-Ata, 1960. 23 pp; (Joint Academic Council of the Institutes of Physiology, Kray Pathology, and Experimental and Clinical Surgery of the Academy of Sciences Kazakh SSR); 150 copies; price not given; (KL, 28-60, 166)



PETROVA, K. I.

Increasing the sensitivity of some photographic emulsions by a preliminary short exposure. T. M. Kuvarzina and K. I. Petrova. *Astron. Zhur.* 34, No. 1, 102–4 (1957).—The increase of sensitivity of 3 photographic emulsions, type 10, RF-3, and Isopan ISS, with a short and bright background illumination prior to the main exposure by a faint source is described. It is concluded that in order to photograph the spectrum of the night sky or of other faint objects, the most effective reduction in the length of the basic exposure is achieved if the preliminary exposure is 0.01–sec. duration to produce a developable d. 0.2–0.3. If this kind of short exposure is made after the basic long exposure, the sensitivity of the emulsion is not increased. R. Z.

NIKIFOROV, A.G., otvetstvennyy redaktor; POLYAKOV, K.V., professor, redaktor; ALEKSANDROVA, T.A., dotsent, redaktor; PETROVA, K.I., redaktor; BELYANOVA, Ye., redaktor; TERKHOV, A., redaktor; VYSHKOVSKIY, D., tekhnicheskiy redaktor

[Natural resources of Kuybyshev Province] Priroda Kuibyshevskoi oblasti. [Kuibyshev] Kuibyshevskoe obl. gos. izd-vo, 1951. 404 p. (Kuybyshev Province--Geography) (MIRA 9:8)

AUTHORS: Mulyarchuk, T. M. and Petrova, K. I.

TITLE: Increasing the sensitivity of some photographic emulsions by a preliminary short exposure. (Povysheniye chuvstvitel'nosti nekotorykh fotomaterialov putem predvaritel'noy podsvetki).

PERIODICAL: Astronomicheskii Zhurnal, 1957, Vol.34, No.1, pp.102-104 (USSR)

ABSTRACT: A preliminary short exposure to a density of 0.2 - 0.3 with an exposure time of 1/100s allows a reduction in the exposure time in the photography of weak objects. It is also useful in photographing the night sky.

Characteristic curves are given for the emulsions RF-3 and Isopan ISS.

Institute of the Physics of the Atmosphere Ac.Sc. USSR.
State Astronomical Institute imeni P. K. Shternberg.

Recd. Aug.25, 1956.

K. I. PETROVA and PARIYSKIY, [illegible]

"Spectrophotometry [illegible]
February 25, [illegible]"

(Total Eclipse of the Sun, February [illegible], [illegible] and June [illegible], [illegible]; Transactions of the Expedition to Observe Solar Eclipses) Moscow, Izd-vo AN SSSR, [illegible] p.

PETROVA, K.; TSITSIN, F.

Sixth cosmogonic conference. Vest. Mosk. un. Ser. mat., mekh., astron., fiz. khim., 12 no.5:233-237 '57. (MIRA 11:9)
(Cosmogony--Congresses)

USSR/Miscellaneous-Production

PETROVA, K. I.

Card 1/1

Authors : Reshetov, A. V.; Zadvornaya, P. M.; and Petrova, K. I., Engineers

Title : Siberian lumberjacks' experiences with electric power saws

Periodical : Mekh. Trud. Rab., 2, 15 - 17., March 1954

Abstract : Report describes the experience of some Siberian lumberjacks who use electrical power saws for the felling of trees. One particular worker using a power saw TsNIIMF-K5 attained a daily output of 250 m^3 of logs (200% above the government standard). Other workers attained an efficiency of from 160 - 200 m^3 per day as compared with the required norm of 116 m^3. In addition to the increased output achieved by the use of power saws much fewer accidents have occured since timber cutting was mechanized. Photo of electrical cutting operation is included.

Institution : ....

Submitted : ....

MULYARCHIK, T.M.; PETROVA, K.I.

Increasing the sensitivity of some photographic emulsions by a brief preliminary exposure. Astron. zhur. 34 no.1:102-104 Ja-F '57. (MLRA 10:4)

1. Institut fiziki atmosfery Akademii nauk SSSR.
(Photographic emulsions)

PETROVA, K.I.

RESHETOV, A.V., inzhener; ZADVORNAYA, P.M.; PETROVA, K.I.

Experience of outstanding Siberian electric saw operators.
Mekh.trud.rab. 8 no.2:15-17 Mr '54. (MLRA 7:3)
(Siberia--Lumbering) (Lumbering--Siberia)

KCSENKO, I.P.; MAKARENKO, V.S.; PETROVA, K.K.

Exchange of experience. Zav.lab. 27 no.8:1012 '61. (MIRA 14:7)
(Titanium chloride)

BULGAKOV, A.A.; KULEBAKIN, V.S., akademik, redaktor; PETROVA, K.M., redaktor; SOKOLOVA, T.R., tekhnicheskiy redaktor

[Frequency control of asynchronous electric motors] Chastotnoe upravlenie asinkhronnymi elektrodvigateliami. Moskva, Izd-vo Akademii nauk SSSR, 1955. 215 p. (MLRA 8:3)
(Electric motors, Induction)

CHAGIN, I.M.; PETROVA, K.N.

Cause of wire corrosion and of breakdown of insulation of windings of electrical machinery. Sbor. mat. po obm. opyt. NIUIF no.12:28-31 '59. (MIRA 16:12)

1. Nauchnyy institut po udobreniyam i insektofungisidam imeni prof. Samoylova.

BRZHEZANSKIY, V.I., inzh.; VAKSER, N.M., inzh.; PETROVA, K.N., inzh.; TOLVINSKAYA, A.V., kand.tekhn.nauk

Dependence of the electrical properties of mica plastics on the initial raw materials. Vest. elektroprom. 34 no.5:9-11 My '63. (MIRA 16:5)

(Mica--Electric properties) (Plastics--Electric properties)

PETROVA, K.P.

Redesigning of sewing machines. Shvein.prom. no.[illegible] '62. (Sewing machines)

PETROVA, Klavdiya Pavlovna; SOROKIN, Aleksey Petrovich; PYARIKONNOVA, Mariya Ivanovna; BYKASOVA, G.I., red.; FREGER, D.F., red. izd-va; GVIRTS, V.L., tekhn. red.

[New developments in the technology of clothing manufacture in the Leningrad clothing factories] Novoe v tekhnologii izgotovleniia odezhdy na leningradskikh shveinykh predpriiatiiakh; obzor. Leningrad, 1962. 60 p. (MIRA 16:3)
(Leningrad--Clothing industry)

PETROVA, K.T. (Leningrad)

Search persistently for new developments, for progress. Shvein.prom. no.5:22-24 Jl-Ag [i.e.,S-O] '61. (MIRA 14:10)
(Clothing industry--Technological innovations)

MARTYGIN, D.D.

PETROVA, K.V.

"The Regularities of the Growth and Development of Calves of the Kholmogorsk Breed and the Quality of their Weight Gain with a Different Character (Level) of Nutrition";
dissertation for the degree of Candidate of Agricultural Sciences
(awarded by the Timiryazev Agricultural Academy, 1962)

(Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, Moscow, No. 2, 1963, pp 232-236)

MULIN, N.M., kand.tekhn.nauk; ARTEM'YEV, V.P., kand.tekhn.nauk;
BELOBROV, I.K., kand.tekhn.nauk; GUZEYEV, Ye.A., inzh.;
KRASOVSKAYA, G.M., inzh.; PETROVA, K.V., inzh.; FIGAROVSKIY, V.V., inzh.

Basis for calculating the deformations of reinforced concrete elements in the draft of the new standards. Bet. i zhel.-bet. 8 no.11:491-498 N '62. (MIRA 15:11)
(Precast concrete)

ISKRZHITSKAYA, A.I.,; LIDOV, I.P.,; PETROVA, K.V.

Prophylactic effect of bicillin in wound infections. Antibiotiki, Moskva 9 no.2:33-36 Mar-Apr 56 (MLRA 9:3)

1. Kafedra mikrobiologii (zav.-chlen-korrespondent AMN SSSR prof. Z.V. Yermol'yeva) TSentral'nogo instituta usovershenstvovaniya vrachey i Gospital'naya khirurgicheskaya klinika (zav. prof. V.S. Mayat) II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni I.V. Stalina.

(WOUNDS AND INJURIES, compl.
infect., prev. with benzathine penicillin G)
(INFECTIONS
wound infect., prev. with benzathine penicillin G)
(PENICILLIN, deriv.
benzathine penicillin G, prev. of wound infect.)

IMSHENETSKIY, A.A., akademik; PARIYSKAYA, A.N.; PETROVA, K.Z.

Transmission of biochemical characteristics in bacteria by transformation. Dokl. AN SSSR 151 no.2:443-445 Jl '63. (MIRA 16:7)

1. Institut mikrobiologii AN SSSR.
(Nucleic acids) (Bacteria)

PETROVA, L.

Women's forum in Moscow. Sov. profsoiuzy 19 no.11:25 Je '63.
(MIRA 16:8)

1. Zamestitel' predsedatelya Komiteta sovetskikh zhenshchin.
(Women—Congresses)

PETROVA, L.

Utilizati n of Wooden Waste Material through the Hydrolysis (Saccharification.) In the Bulgarian Heavy Industry, 3:8:Mar 55

MEL'NIKOV, S., inzh. (Tashkent); PETROVA, L., inzh. (Novosibirsk); FADEYEV, A.; ANTONOV, A.; SHTURMAN, G., doktor tekhn. nauk, prof. (Riga); MEL'NIK, V., inzh. (Riga); FEDOROV, V., inzh. (Tbilisi)

Ready to shape. Grazhd. av. 20 no.10:22-23 O '63. (MIRA 16:12)

1. Predsedatel' komissii partgoskontrolya pri Tyumenskoy aviagruppe Ural'skogo territorial'nogo upravleniya Aeroflota (for Fadeyev).

PETROVA, L.

Only with tractors. p. 11.

Vol. 10, no. 9, Sept. 1965
KOOPERATIVNO ZEMEDELIE
Sofiya, Bulgaria

So: Eastern European Accession Vol. 5 No. 1 Jan. 1956

10

Chem A

PETROVA, L. A.

Isomeric transformations of α-keto alcohols. VIII. Effect of a methyl group in the para position in a phenyl nucleus on the relative stability of isomeric alkaryl α-keto alcohols. I. I. Lemnikova and L. A. Petrova (Leningrad State Univ.). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, [illegible] 44 [illegible]. Introduction of Me into the para position of Ph in alkaryl α-keto alcs. changes the properties of the substances by the inductive and mesomeric effects of the Me group. Of $MeC_6H_4C(OH)$[illegible] and isomeric [illegible] $MeC_6H_4CH(OH)COMe$, the former is most stable. [illegible] HCOOK in MeOH [illegible] MeC_6H_4[illegible] treated with [illegible] MeOH soln. of p-MeC_6H_4[illegible] [illegible] and the crude product used [illegible] reflux [illegible] hrs. to yield 27% [illegible] which [illegible] semicarbazone [illegible] deposits a solid residue [illegible] from EtOH [illegible] from EtOH [illegible] with 2.5% MeOH-HCl yields the [illegible] Attempts to [illegible] heating the keton in a sealed tube [illegible]

[illegible] HCOOK [illegible] isolated [illegible] formed [illegible] sealed tube). The [illegible] groups and does not form [illegible] carbinol, has no OH groups [illegible] Heating [illegible] possibly [illegible] MeC_6H_4[illegible] $COCH(OH)Me$ with HCOOK and MeOH [illegible] product II [illegible] hrs. at [illegible] [illegible] semicarbazone [illegible] the yield of the [illegible] indicates that the condensation yields [illegible] [illegible] MeOH [illegible] $H_2NCONHNH_2$ in aq. MeOH [illegible] semicarbazone [illegible] [illegible] $BaCO_3$ [illegible] with crude II [illegible] $BaCO_3$ [illegible] EtOH. Heating [illegible] MeC_6H_4[illegible] [illegible] but heating [illegible] $BaCO_3$ in EtOH [illegible] [illegible] followed by [illegible] the 2-keto-[illegible] crude II and [illegible] $MeC_6H_4COCH(OH)Me$ (III) [illegible] [illegible] $MeC_6H_4COCH_2OH$ [illegible] with fresh $BaCO_3$ [illegible] hrs. [illegible] III [illegible] III [illegible] [illegible] m.p. at about [illegible] keto-[illegible]

1951

NIKOLAEV, A.F. [illegible]; MERKULOVA, N.A.; PETROVA, L.A.; TSVORNINA, V.M.

Properties of hardened and unhardened epoxy novolak compositions. Plast. massy no.4:[illegible] '65. (MIRA 18:6)

PETROVA, L.A.

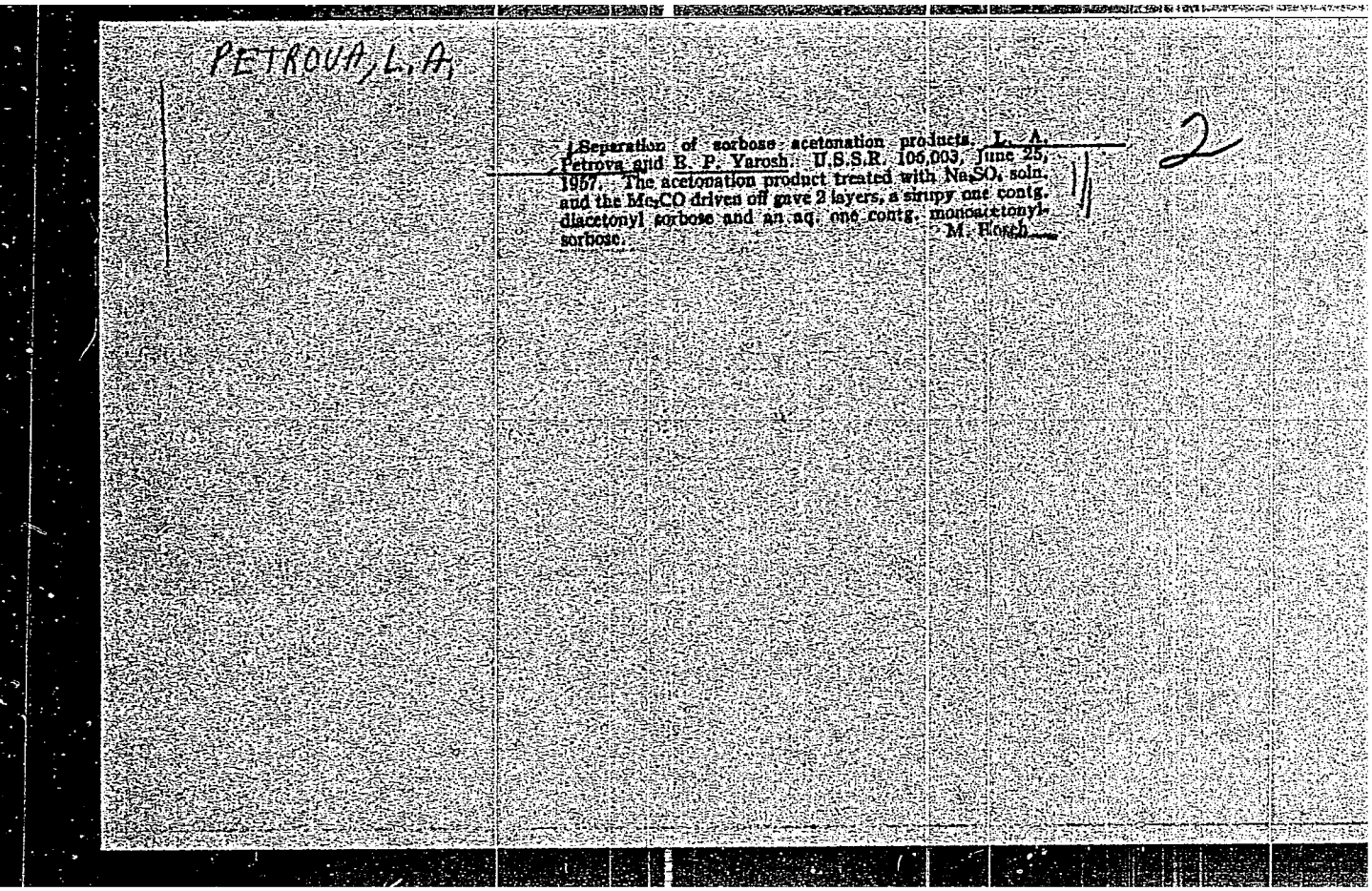
Conference on the nature of metallic phases and the character of metal-chemical bonding. Izv. AN SSSR. Neorg. mat. 1 no.3[illegible] (MIRA 18:6)
[illegible] 465.

PETROVA, L. A.

CA

10

Molecular rearrangements of α-keto alcohols. IX Reaction of methyl *p*-tolyl ketols with organomagnesium compounds. T. I. Temnikova and L. A. Petrova (A. A. Zhdanov State Univ., Leningrad). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, 1877–83(1951); cf. *C.A.* 45, 9304h. - Reactions of MeMgBr with *p*-$MeC_6H_4COCH(OH)Me$ (I) and *p*-$MeC_6H_4CH(OH)Ac$ (II) lead to considerable enolization of the latter substances. Introduction of a *p*-Me group thus enhances enolization and raises the yield of "abnormal" reaction products (*loc. cit.*). To MeMgBr (from 11.6 g. MeBr) in Et_2O was added 4.9 g. I with ice cooling and the mixt. let stand 12 hrs., refluxed 4 hrs., and worked up as usual, yielding 49.4% *p-MeC₆H₄CMe(OH)CH(OH)Me*, b_{18} 160–3°, m. 84–6°, which with CrO_3-H_2O at 50° gave AcH and *p*-AcC_6H_4Me. I (5 g.) with PhMgBr (from 19 g. PhBr) similarly gave 20% *1-phenyl-1-p-tolyl-1,2-propanediol*, m. 84–6°, which with $Pb(OAc)_4$-AcOH gave AcH and *p*-BzC_6H_4Me-*p*. II (5 g.) with EtMgBr yielded 1.7 g. oily product, b_5 143–9°, oxidized to AcH, MeEtCO, *p*-MeC_6H_4COEt, and *p*-$MeC_6H_4CO_2H$, thus showing that a mixt. of glycols formed; about 33% *3-p-tolyl-2,3-pentanediol* and 67% *1-p-tolyl-2-methyl-1,3-butanediol*. Similarly II with PhMgBr gave a mixt. of *glycols*, m. 87–8°, oxidized to AcH, *p*-BrC_6H_4Me, AcPh, and *p*-$MeC_6H_4CO_2H$, from the relative amts. of which the glycol mixt. was shown to be 85% *1-p-tolyl-2-phenyl-1,2-propanediol* and 15% *1-phenyl-1-p-tolyl-1,2-propanediol*. The reaction proceeds by a 1st-step reaction of RMgX with the OH of the carbinol, followed by development of the pos. pole at the carbonyl C with addn. of MgBr to carbonyl the O, the subsequent course being detd. by the structure of the carbinol. G. M. Kosolapoff



PETROVA, L. A.

Separation of sorbose acetonation products. L. A. Petrova and B. P. Yarosh. U.S.S.R. 105,003, June 25, 1957. The acetonation product treated with Na_2SO_4 soln. and the Me_2CO driven off gave 2 layers, a syrupy one contg. diacetonyl sorbose and an aq. one contg. monoacetonyl-sorbose. M. Hoch

2

PETROVA L A

18(2) PHASE I BOOK EXPLOITATION SOV/1200

Akademiya nauk SSSR. Institut metallurgii

Titan i yego splavy; metallurgiya i metallovedeniye (Titanium and Its Alloys; Metallurgy and Physical Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 209 p. 4,000 copies printed.

Resp. Ed.: Ageyev, N.V., Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: Rzheznikov, V.S.; Tech. Ed.: Kiseleva, A.A.

PURPOSE: This book is intended for metallurgists, machine designers, and scientific and industrial personnel working on the development of titanium as an industrial metal.

COVERAGE: The book deals with the following: methods of welding and soldering commercial titanium; mechanical properties of titanium weldments; crystal growth and structural changes occuring during welding; recrystallization diagrams of titanium and its alloys; a metallographic method of determining the degree of contamination of titanium and its alloys by oxygen and nitrogen; plasticity of titanium alloys; industrial methods of rolling titanium and

Card 1/6

Card 3/6

PART II. FORMING OF TITANIUM AND TITANIUM-BASE ALLOYS

AVAILABLE: Library of Congress

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Card 6/6

ALISOVA, S.P.; VUL'F, L.B.; MARKOVICH, K.M.; NOVIK, P.K.; PETROVA, L.A.; ROGACHEVSKAYA, Z.M.; AGEYEV, N.V., red.; SOBOLEVA, N.M., tekhn.red.

[Phase diagrams of metallic systems published in 1955] Diagrammy sostoianiia metallicheskikh sistem, opublikovannye v 1955 godu. Pod red. N.V.Ageeva. Moskva. No.1. 1959. 134 p. (MIRA 13:12)

(Alloys) (Phase rule and equilibrium)

ALISOVA, S.P.; VUL'F, L.B.; MARKOVICH, K.M.; PETROVA, L.A.; ROGACHEVSKAYA, Z.M.; AGEYEV, N.V., red.; SLUZHITEL', Ye.I., tekhn.red.

[Phase diagrams of metallic systems; published in 1956] Diagrammy sostoianiia metallicheskikh sistem; opublikovannye v 1956 godu. Pod red. N.V.Ageeva. Moskva. No.2. 1959. 102 p.
(MIRA 13:12)

(Alloys) (Phase rule and equilibrium)

KON'KOVA, V.A.; PETROVA, L.A.

Selection of a catalyst in obtaining intermediate products of the synthesis of pyridoxine. Trudy VNIVI 6:10-14 '59.
(MIRA 13:7)
1. Leningradskiy filial Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(PYRIDOXINE)

PETROVA, L.A.; YAROSH, Ye.P.; KANTOR, B.B.

Salt separation of the products of the acetonation of sorbose.
Trudy VNIVI 6:41-47 '59. (MIRA 13:7)

1. Sinteticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta i Leningradskiy vitaminnyy zavod No.1.
(SORBOSE)

5(2), 18(4)

AUTHORS: Ageyev, N. V., Petrova, L. A.

SOV/78-4-5-25/46

TITLE: The Stability of the β-Phase in Titanium Alloys With Iron and Nickel (Stabil'nost' β-fazy v splavakh titana s zhelezom i nikelem)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 5, pp 1092-1099 (USSR)

ABSTRACT: The conditions for the stability of the β-phase in titanium alloys containing iron and nickel were investigated in the meta-stable state. For the purpose of producing the alloys, magnesium-thermal titanium, iodide titanium, carbonyl iron, and electrolytic nickel was used. The chemical composition of the alloys Ti-Fe and Ti-Ni is given by tables 1 and 2. The alloys were produced in an electric arc furnace with tungsten electrodes in an argon current. X-ray and microstructural analyses of the alloys and hardness and microhardness determinations were carried out. Figure 1 shows the constructed meta-stable diagram of the phase composition of the titanium - iron alloys. The diagram shows that it is possible to stabilize the β-phase in titanium - iron alloys with 5.16 % by weight iron in the

Card 1/4

The Stability of the β-Phase in Titanium Alloys With Iron and Nickel SOV/78 4 5-25/46

case of magnesium-thermal titanium alloys, and with 5.7 % by weight iron for iodide alloys by hardening in water of $+20^{\circ}$, 50°, and 900°. The meta-stable diagram of the phase composition titanium-nickel is shown by figure 2 (a - magnesium-thermal alloys; b - iodide alloys) The X-ray pictures of the titanium-iron alloys are shown by figure 4. The stability of the meta-stable β-phase of the alloys with 5.7, 6.34, 6.68 and 7.11 % by weight iron and 7.6 % by weight nickel were investigated within the temperature interval of $11\,6^{\circ}$ - 500° by means of microstructural and X-ray analyses by employing the method of determining hardness and microhardness. The structure and microstructure of alloys hardened at 900° are shown by figure 5. The diagram shows that with an increase of the iron content in the alloys the β-phase in the alloys becomes stabilized. The maximum hardness of the alloys with 5.7 and 6.34 % by weight iron amounts to 579 and 572 kg/mm^2 and corresponds to the $\beta + \omega + \alpha$ -state. The maximum hardness of the alloys with 6.68 and 7.11 % by weight iron is 585 and

Card 2/4

505 kg/mm^2, and corresponds to the $\beta + \omega$ state. The structure and the hardness of the titanium alloys with 7.6 % by weight Ni, which were hardened at 900° and tempered at various temperatures, is shown by figure 6. The variation of the lattice constant of the β-solid solution of the alloys with 7.11 % by weight iron and 7.6 % by weight nickel in dependence on the heating temperature of 300° and 400°, and in the β-solid solution of the titanium alloys with 6.34 and 7.11 % by weight iron in dependence on the composition and storage time at 400° were investigated. In hardened alloys with 6.34 and 7.11 % by weight iron the lattice constants of the β-solid solutions are 3.241 and 3.216 k X respectively. The variation of the lattice constant of the β-solid solution in dependence on the composition of the alloy in the case of heating up to 400° is shown by figure 7. The variation of the lattice constants of the β solid solution in dependence on the temperature (300 - 400°) and the time during which this temperature is maintained is

The Stability of the β -Phase in Titanium Alloys With Iron and Nickel SOV/79-4-5-25/46

shown by figure 9. Determinations of hardness show that with a decrease of the lattice constants in the β -solid solution hardness increases. By an increase of the time of constant high temperature the hardness and the lattice constants of the β solid solution do not change. Maximum hardness in the alloys is attained by heating up to 400°C. There are 9 figures, 2 tables, and 6 references, 2 of which are Soviet.

SUBMITTED: February 8, 1958

Card 4/4

5(2)

AUTHORS: Ageyev, N. V., Petrova, L. A. SOV/78-4-5-35/43

TITLE: The Decomposition of the Solid β-Solution of Alloys of Titanium with Molybdenum (Raspad β-tverdogo rastvora splavov titana s molibdenom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 5, pp 1124-1125 (USSR)

ABSTRACT: In the previous paper (Ref 1) the solid β-solution of a titanium alloy with 11 % by weight molybdenum was investigated and it was found that in heating to 200-400° it decomposes over a ω-intermediate phase. This intermediate phase gradually passes into the α-phase. In the heating to 500° the solid β-solution is directly converted into the α-phase. Alloys with a higher molybdenum content (15.11 and 20.93 % by weight, analyses on Table 1) were then investigated. It was found (Fig 1) that the process in these alloys takes place in similar way as in the alloys with 11 % by weight Mo. There are 1 figure, 1 table, and 1 Soviet reference.

SUBMITTED: August 15, 1958

Card 1/1

ALISOVA, S.P.; VUL'F, L.B.; MARKOVICH, K.P.; PETROVA, L.A.; ROGACHEVSKAYA, Z.M.; AGEYEV, N.V., red.; MOSSKVINA, R.Ya., red.; MUKHA, S.Ya., tekhn. red.

[State diagrams of metal systems published in 1957] Diagrammy sostoianiia metallicheskikh sistem, opublikovannye v 1957 godu. Pod red. N.V.Ageeva. Moskva. no.3. 1960. 270 p. (MIRA 14:7)

(Alloys)

69054

18.1285

S/078/60/005/03/019/048
B004/B002

AUTHORS: Ageyev, N. V., Petrova, L. A.

TITLE: The Stability of the β-Phase in Alloys of Titanium With Vanadium

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 3, pp 615-618 (USSR)

ABSTRACT: It was the purpose of the present paper to construct the phase diagrams of titanium-vanadium alloys and to investigate the stability of the metastable β-phase within the temperature range of -196° -+500°. The initial product used was Ti produced by the magnesium-thermit process or from titanium iodide, and pure vanadium. The content of impurities in the initial substances is given. The Ti-V alloys of Ti produced by the magnesium-thermit process, were melted by G. N. Tarasenko and I. A. Prostov, collaborators of the VIAM (Vsesoyuznyy nauchno-issledovatel'skiy institut aviatsionnykh materialov - All-Union Scientific Research Institute of Aviation Materials). Tables 1, 2 give analyses of the alloys. Alloys with Ti produced by the magnesium-thermit process were forged at 900° - 950° and glowed in vacuum. They were metallographically and radiographically analyzed (RKU-camera). Their hardness was determined by means of a Vickers apparatus with a

Card 1/4

69054

The Stability of the β-Phase in Alloys of Titanium With Vanadium

S/078/60/005/03/019/048
B004/B002

10 kg load. On the basis of the analysis of the alloys chilled in water, the metastable phase diagram of the alloys was drawn within the range of 700° - 1000° (Fig 1a). The β-phase was fixed with 19.27 weight% of V in an alloy chilled from 850° to 20°. The alloy of 15.08 weight% of V chilled from 1000°, contained the β + ω-phase. The alloy of 3.72 weight% of V showed the structure of an oversaturated α-phase. α+β-phase was found in alloys chilled below 850°. Table 2 gives the phase diagram of alloys produced by means of titanium iodide which were rolled at 900°. For preventing oxidation during rolling, the alloys were welded into covers of stainless steel. The alloy with 15.56 weight% of V contains β+ω-phase. All alloys with a vanadium content of over 24.41 weight% showed the structure of the solid β solution (Fig 1b). The stability of the β-phase was examined within the range of -196 - +500° in alloys which were obtained from Ti produced by the magnesium-thermit process. Figure 2 shows that the solid β-solution of the alloy with 19.27 weight% of V at negative and room temperatures is stable and at 100° is conserved for 81 hours. Heating to 200° - 400° causes decomposition via the ω-intermediate phase which gradually

Card 2/4

is transformed into the α-phase. Heating to 500° causes direct decomposition in the α-phase. The decomposition of the β-phase takes place under larger lattice constant reductions than in titanium alloys with Mo, Fe and Ni (Refs 1, 3). The radiograph of figure 4 shows a displacement of the β-phase lines as compared to the ω-phase lines, which increases together with halting time and temperature of heating. Figure 5 shows the decomposition diagram of the solid β-solution of Ti-V alloys. The stability of the solid β-solution increases with an increasing V-content. The hardness test of the alloys showed the hardness maximum to be within the β+ω-range. There are 5 figures, 2 tables, and 7 references, 4 of which are Soviet.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR (Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences, USSR)

The Stability of the β-Phase in Alloys of Titanium With Vanadium

69054
S/078/60/005/03/019/048
B004/B002

SUBMITTED: October 6, 1958

Card 4/4

PETROVA, L.A.

Using trichogramma against Agrotis segetum and other cutworms. Zashch. rast. ot vred. i bol. 5 no. 8:30 Ag '60. (MIRA 13:12)

1. Zaveduyushchaya Poltavskoy oblastnoy biolaboratoriyey, g.Lubny.
(Insects, Injurious and beneficial--Biological control)
(Cutworms)

S/078/61/006/001/[illegible]/019
B017/B054

18.1285

AUTHORS: Ageyev N. V., Karpinskiy, O. G., Petrova, L. A.

TITLE: Mechanism of Decomposition of Solid β-Solution of Titanium - Rhenium Alloys

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 1, pp. 251 - 252

TEXT: The authors studied the mechanism of decomposition of solid β-solution of titanium - rhenium alloys by metallographic and X-ray analyses, as well as by Vickers hardness measurements. The alloys were produced at the Laboratoriya redkikh i blagorodnykh metallov i splavov Instituta metallurgii Akademii nauk SSSR (Laboratory of Rare Metals, Precious Metals and Alloys of the Academy of Sciences USSR). A figure schematically shows hardness and structure of a titanium alloy with 19.91 % by weight of rhenium, which was hardened at 900°C. The solid β-solution of the titanium alloy with 19.91 % by weight of rhenium is decomposed on heating at 400°C with separation of the ω-phase; with extension in the reaction time, the ω-phase passes over into the α-phase.

Card 1/2

88-73

Mechanism of Decomposition of Solid β-Solution of Titanium - Rhenium Alloys

S/078/61/006/00[illegible]/019
B017/B054

The mechanism of decomposition of solid β-solution of titanium - rhenium alloys proceeds according to the scheme $\beta \longrightarrow \beta + \omega \longrightarrow \beta + \alpha$. The increased hardness of β-alloys of titanium with rhenium is explained by a distortion of the crystal lattice of the solid β-solution. There are 1 figure and 5 Soviet references.

SUBMITTED: August 2, 1960

Card 2/2

18 1285

25518

S/078/61/006/008/018/018
B127/B226

AUTHORS: Ageyev, N. V., Karpinskiy, O. G., Petrova, L. A.

TITLE: Stability of the β-phase solution of a titanium-chromium alloy

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 8, 1961, 1976-1978

TEXT: This is to continue a series of studies on the β-phase Ti-Cr alloy, and to clarify the balancing of the metastable phase and the mechanism of dissociation at 100 - 400°C. Titanium and chromium iodides were used as initial materials which contained 1% of carbon and, as gaseous additions, 0.01% of oxygen and nitrogen, and 0.001% of hydrogen. The iron and silicon content did not exceed 0.05%. The components were fused in an arc furnace with tungsten electrodes and an argon atmosphere. The alloy was kept in molten state at 900 - 950°C with intermediate heating for 5 - 15 min. The melt was tempered in a muffle furnace at 900°C for 2 hr, and then gradually cooled in the furnace. Heat treatment of the samples was carried out in quartz ampuls evacuated to a pressure of 10^{-4} mm Hg. The samples were metallographically and roentgenographically examined; hardness was determined by the Vickers method and under a pressure of 10 kg.

Card 1/4

The β-phase can be obtained in metastable state in melts of 9% by weight (8.4 at%) of Cr by tempering at 800 and 900°C. All other alloys containing less than 9% of Cr showed β- and ω-phase structures. For this stabilization, different values are given in publications. They are explained by the impurity of the substances used and by the different rates of tempering of the alloys. In the present case, the stability of the β-phase of alloys having 9.14 and 9.79% by weight of Cr was studied at temperatures of 100 - 400°C. The stability of the β-phase is graphically shown in Fig. 2. The solid lines comprise the structural range; the dotted ones show the range of maximum hardness, the values of which are given in figures. The β-phase dissociates as follows: $\beta \longrightarrow \beta + [\omega(\beta_{reduced}) + \beta_{concentrated}] \longrightarrow \beta_{concentrated} + \omega \longrightarrow \beta_{concentrated} + \alpha \longrightarrow \alpha$ + chemical compound. There are 2 figures, 1 table, and 12 references: 10 Soviet-bloc and 2 non-Soviet-bloc. The two references to English-language publications read as follows: Ref. 7: F. B. Cuff, N. J. Grant, C. F. Floe. Trans Amer. Inst. min. (metall). Engrs, 194, 848 (1952); Ref. 8: D. J. Me Pherson, M. G. Fontana. Trans Amer. Soc. Metals, 43, 1098 (1951).

SUBMITTED: March 6, 1961

Card 2/4

ACC NR: AP6036757 (A) SOURCE CODE: UR/0020/66/171/001/0077/0080

AUTHOR: Agevev, N. V. (Corresponding member AN SSSR); Ivanova, V. S.; Petrova, L. A.; Kudryashov, V. G.; Grankova, L. P.

ORG: Institute of Metallurgy im. A. A. Baykov, AN SSSR (Institut metallurgii Akademii Nauk SSSR)

TITLE: Effect of structure on the resistance of β-titanium alloy crack propagation

SOURCE: AN SSSR. Doklady, v. 171, no. 1, 1966, 77-80

TOPIC TAGS: titanium, molybdenum alloy, chromium containing alloy, iron containing alloy, aluminum containing alloy, ~~alloy~~ heat treatment, ~~alloy structure~~, ~~alloy mechanical property~~/IVT-1 alloy

ABSTRACT: Specimens of IVT-1 β-titanium alloy of optimum composition (7% Mo, 5.5% Cr, 3% Fe, and 3% Al) were solution heat treated at 800C (the β-region), water quenched, and aged at 450C for 50 hr, at 500C for 20 hr, at 525C for 15 hr, or at 500C for 15 hr. Microscopic examination showed that decomposition of the β-solid solution became more uniform as the aging temperature increased. After aging at 525C for 15 hr, the alloy structure consisted of the β-solid solution matrix uniformly reinforced with α-phase acicular fibers 2 μ or more long with a diameter about one order lower. Similar precipitated α-phase fibers within β-grains and along their boundaries were also observed in the alloy aged at 550C for 15 hr. In each

UDC: 669.295.5:620.17

Card 1/2

ACC NR: AP6036757

β-grain, the precipitated α-fibers appeared to be [illegible] along the slip planes. Aging conditions had no effect on the total volume of the precipitated fibers and affected only their form and distribution. The alloy aged at 525 or 550C had a tensile strength of 161 and 170 kg/mm², an elongation of 8.0 and 7.4%, and a reduction of area of 21.0 and 11.5%, respectively. The corresponding figures for unaged alloy were 150.7 kg/mm², 10.0% and 17.3%. Regardless of the aging conditions, IVT-1 alloy had a relatively low notch toughness of 2 kg·m/cm². However, the alloy aged at 525 and 550C had high resistance to crack propagation, indicating the alloy's low susceptibility to brittle failure under static loads. Therefore, IVT-1 β-titanium alloy reinforced with precipitated α-phase fibers can be recommended for structures with stress concentrators working under static laods. Orig. art. has: 2 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 21Jul66/ ORIG REF: 001/ OTH REF: 004/
ATD PRESS: 5106

Card 2/2

KLIMOV, A.N.; POLYAKOVA, E.D.; REMIZOV, A.L.; PETROVA, L.A.

Inhibition of the biosynthesis of cholesterol and fatty acids in the liver in rats by derivatives of mevalonic acid. Vop. med. khim. 11 no.1:101-103 Ja-F '65. (MIRA 18:10)

1. Otdel biokhimii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

SHCHEKINA, N.A. [Shchekina, N.C.]; PETROVA, L.A.

New data on the flora of the second Mediterranean stage in the environs of the village of Monastyrok, Lvov Province. Ukr. bot. zhur. 22 no.5 80-86 '65. (MIRA 19:1)

1. Institut botaniki AN Ukr.SSR, otdel istorii flory i paleobotaniki.

AGEYEV, N.V.; GLAZUNOV, S.G.; PETROVA, L.A.; TARASENKO, G.N.; GRANKOVA, L.P.

Aging of β-alloys of the system Ti - Mo - Cr - Fe - Al. Metalloved i term. obr. met. no.5:33-35 My '65. (MIRA 18:7)

MATVEYEVA, M.D., nauchnyy sotrudnik (Chita); OGNEV, I.M.; LOGOVA, M.G.; BADULIN, A.V., kand.biolog.nauk; ROKTANEN, L.P.; KAL'BERGENOV, G.K.; LYAKH, A.I.; PETROVA, L.A.

Effectiveness of entobacterin. Zashch.rast. ot vred. i bol. 9 no.11:26-27 '64. (MIRA 18:2)

1. Zaveduyushchaya Minskim entomo-fitopatologicheskim uchastkom (for Logova). 2. Kustanayskaya opytnaya sel'skokhozyaystvennaya stantsiya (for Badulin). 3. Zaveduyushchiy kafedroy zashchity rasteniy TSelinogradskogo sel'skokhozyaystvennogo instituta (for Roktanen). 4. Toksikologicheskaya laboratoriya, pochtovoye otdeleniye Tolstopal'tsevo, Moskovskoy oblasti (for Kal'bergenov, Lyakh). 5. Zaveduyushchaya laboratoriyey biometoda, Lubny, Poltavskoy oblasti (for Petrova).

L 55852-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EPF(n)-2/EWP(b) Pu-4 IJP(c) JD/JG

ACCESSION NR: AP5013117 UR/0370/65/000/002/0141/0146
669.295

AUTHOR: Ageyev, N. V. (Moscow); Glazunov, S. G. (Moscow); Petrova, L. A. (Moscow); Tarasenko, G. N. (Moscow); Grankova, L. P. (Moscow)

TITLE: Hot hardness in β alloys of the Ti-Mo-Cr-Fe-Al system

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1965, 141-146

TOPIC TAGS: titanium alloy, molybdenum alloy, chromium alloy, aluminum alloy, iron alloy, metal mechanical property

ABSTRACT: Hot hardness measurements on six Ti-Mo-Cr-Fe-Al alloys gave a preliminary idea of the over-all high temperature strength properties. Measurements were in the 20-1000°C range (after holding for one minute) and hardness versus time plots (1, 5, 15, 30 minutes) were also obtained at 20, 500, and 800°C under a load of 1 Kg. Differences in positions of maximum hardness for the forged at 1000°C but not reheated to 700°C specimens is said to be caused by the different amounts of α segregations. Alloy compositions used had somewhat varying compositions. Non heat-treated (forged) alloys maintained a higher hot hardness than heat treated al-

Card 1/2

L 55852-65

ACCESSION NR: AP5013117

loys, i.e. hardness at 600°C was about the same as room temperature. A sharp drop is noticed after 700°C. The 700°C reheat does not provide enough time for the attainment of equilibrium conditions. A truer picture of β precipitation would be attained with longer annealing time under vacuum. Hardness versus time curves sometimes show slight rises with increasing time due to precipitation of β. High temperature hardness in the 20-600°C range indicated effectual high temperature strengthening. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 24Feb64 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 000

Card 2/2

L 57509-65 EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/EPR/T/EWP(t)/EWP(b)/EWA(c) Ps-4/Pu-4
IJP(c) JD/JG

ACCESSION NR: AP5013155 UR/0129/65/000/005/0033/0035
669.295'71'26'28:621.785.74

AUTHOR: Ageyev, N. V.; Glazunov, S. G.; Petrova, L. A.; Tarasenko, G. N.; Grankova, L. P.

TITLE: Aging of β-alloys in the Ti-Mo-Cr-Fe-Al system

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1965, 33-35, and insert facing p. 24

TOPIC TAGS: titanium alloy, chromium alloy, molybdenum alloy, aluminum alloy, metal physical property, metal hardness, metal aging

ABSTRACT: An attempt was made to find an aging treatment which gives maximum hardness and strength. A series of β-alloys were selected for studying structure and hardness as a function of aging temperature from 300 to 1000°C. The Ti alloys investigated varied in composition: Mo (1.6-7.9%), Cr (3.4-7.7%), Fe (3.1-6.1%) and Al (3.2-3.6%). After due processing and heat treatment, the alloys were examined by x-ray analysis, and Vickers hardnesses were measured. Both metallographic and x-ray techniques showed β-solid solutions. All of the hardness data are given in

Card 1/4

L 57509-65

ACCESSION NR: AP5013155

fig. 1 of the Enclosure. The alloys were aged, after prior annealing and treatment, for one hour at temperatures ranging from 300 to 1000°C. The hardness shows a maximum around 500-550°C depending on the alloy. From 600-800°C the hardness gradually diminishes, and after 800°C an insignificant increase is noted in some alloys. All of the alloys have β-solid solution structures when aged at 300 and 400°C. A mixture of α+β is noted after aging above 450°C, paralleling the increase in hardness. The maximum in hardness coincides with the greatest quantity of α-phase, and upon further aging the quantity of α-phase diminishes as does the hardness. At 800°C, all alloys revert to a β-solid solution.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 02 SUB CODE: MM, AS

NO REF SOV: 001 OTHER: 000

Card 2/4

PETROVA, L.A.; BEL'TSOVA, N.N.

Synthesis of some 4-substituted derivatives of [illegible]oxine.
Zhur. ob. khim. 34 no.[illegible] Apr [illegible]

1. Institut eksperimental'noy meditsiny AMN SSSR.

PETROVA, L.A.; BEL'TSOVA, M.M.; ARBUZOV, B. Ya.

Alkylation of β-phenylisopropylamine by pyridoxine bromohydrins. Zhur. ob. khim. 34, no. 7:2390-2392 Jl '64
(MIRA 17:8)

1. Institut eksperimental'noy meditsiny AMN SSSR, Leningrad.

AGEYEV, N.V.; PETROVA, L.A.

Stability of the beta phase in titanium-molybdenum alloys. Titan i ege splavy no. 1:3-16 '58. (MIRA 14:5)

1. Institut metallurgii AN SSSR.
(Titanium-molybdenum alloys--Metallography)
(Phase rule and equilibrium)

PHASE I BOOK EXPLOITATION SOV/5612

Alisova, S. P., L. B. Vul'f, K. M. Markovich, P. K. Novik, L. A. Petrova, and Z. M. Rogachevskaya

Diagrammy sostoyaniya metallicheskikh sistem, opublikovannyye v 1955 godu. vyp. 1. (Equilibrium Diagrams of Metal [Alloy] Systems, Published in 1955. no. 1) Moscow, 1959. 135 p. Errata slip inserted. 1,500 copies printed.

Ed. (Title page): N. V. Ageyev; Tech. Ed.: N. M. Soboleva.

PURPOSE : This book is intended for metallurgists, scientific workers, and students engaged in the study of alloys and their properties.

COVERAGE: Equilibrium diagrams published in Soviet and non-Soviet literature in 1955 are arranged in sequence according to the number of component elements (binary, ternary, quaternary, etc.); within the groups, they are arranged in Russian alphabetical order according to the names of the components. The

Card 1/16

AGEYEV, N.V.; PETROVA, L.A.

Stability of the β-phase in titanium-vanadium alloys. Zhur. neorg. khim. 5 no.3:615-618 Mr '60. (MIRA 14:6)

1. Institut metallurgii im. A.A. Baykova AN SSSR.
(Titanium-vanadium alloys)

ALISOVA, S.P.;KOLESNIKOVA, T.P.; MARKOVICH, K.P.; PETROVA, L.A.; ROGACHEVSKAYA, Z.M.; AGEYEV, N.V., red.; MOSKVINA, R.Ya., red.; MUKHA, S.Ya., tekhn. red.

[Constitutional diagrams of metal systems published in 1958] Diagrammy sostoianiia metallicheskikh sistem, opublikovannye v 1958 godu. Pod red. N.V.Ageyeva. Moskva, No.4. 1961. 402 p. (MIRA 14:12)
(Phase rule and equilibrium)

S/180/61/000/005/013/016
E193/E383

AUTHORS: Ageyev, N.V., Karpinskiy, O.G. and Petrova, L.A. (Moscow)

TITLE: Stability of the beta-solid solution in titanium-iron-chromium alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no 5, 1961, 86 - 89 + 1 plate

TEXT: The object of the present investigation was to study the effect of a third alloying element (iron or chromium) on the stability of the β-phase in binary Ti-Cr or Ti-Fe alloys. The composition of the experimental alloys is given in a table. Hardness measurements, metallographic examination and X-ray diffraction were used to study the phase transformations in specimens prepared from alloys which had been melted in an argon-arc furnace, hot-forged, scalped and homogenized by two-hours treatment at 900 °C. In the first series of experiments the constitution of alloys quenched from 800 and 900 °C was studied. The results are reproduced in Fig. 1, showing the

Card 1/6

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E193/E383

Stability of ....

Ti-rich corner of the metastable constitution diagram of Ti-Fe-Cr alloys at 900 °C (broken line) and 300 °C (continuous line); the regions above and below these lines comprise alloys consisting, respectively, of β+ω and β-phase only. These results are in agreement with the earlier findings of Ageyev and Petrova (Ref. 5 - DAN SSSR, 1951, v. 138, no. 2, 359-360) according to which alloys with an electron concentration ≥4.2 consist of a single β-phase, whereas those with and electron concentration < 4.2 have a two-phase (β+ω) structure. In the second series of experiments, the stability of the metastable β-phase, obtained in alloys 2, 4, 5 and 7 by quenching from 900 °C, was studied on specimens aged at 100 - 400 °C for periods ranging from 15 min to 100 hours. The results are reproduced in Fig. 2, where the constitution of an alloy containing 4.09% Fe and 6.20% Cr is plotted as a function of temperature (t, °C, vertical axis) and time (τ, min, horizontal axis); the continuous lines divide the diagram into three regions: β-phase regions (circles); (β+ω) region (crosses) and (α+β) region (squares). The numbers ascribed to

Card 2/

Stability of . .

experimental points denote the hardness (kg/mm^2) of the corresponding specimens and the broken lines represent the boundary of the maximum-hardness region It will be seen that alloys with the ($\beta+\omega$) structure are relatively hard, the hardness increasing with temperature of the ageing treatment This effect is associated with the degree of dispersion and the quantity of precipitated ω-phase Laue photographs of the Ti-Fe-Cr alloys, aged at 300 - 400 °C, showed additional reflections (satellite spots) situated near those produced by the matrix lattice. This effect was attributed to a change in the periodicity of the lattice in sub-microscopic crystal regions caused by localized variation of the concentration of supersaturated solid solution during the formation of two-dimensional nuclei of the new phase, whose composition approached that of the precipitated phase in equilibrium with the matrix. The dimension of the Ti-enriched regions were calculated from the angular displacement of the satellite spots and it was found that they depended on the composition of the alloy and the ageing time and temperature, being approximately

S/180/61/000/005/013/018
E193/E383

Stability of

150 Å in the 3.19 wt.% Fe and 5.99 wt.% Cr alloy aged for 15 min at 400 °C, approximately 125 Å in similarly treated 4.09 wt.% Fe and 6.20 wt.% Cr alloy and about 100 Å in the 4.15 wt.% Fe - 6.33 wt.% Cr alloy. The effect of temperature was more pronounced: in the case of the 4.09 wt.% Fe - 6.2 wt.% Cr alloy, it took 15 min for the size of the Ti-enriched zones to reach 125 Å, when aged at 400 °C, and 61 hours when aged at 300 °C. The change in the particle size and quantity of the precipitated ω-phase was accompanied by enrichment of the β-matrix, whose composition tended to approach that of the eutectoid. This tendency was indicated by the variation of the lattice parameter of the β-phase which, in the 4.0 wt.% Fe - 3.64 wt.% Cr alloy, changed from 3.250 kX after quenching, to 3.182 kX after 7 hours ageing at 400 °C. The results of the present investigation showed that the decomposition of the supersaturated solution in Ti-rich Ti-Fe-Cr alloys took place in the following manner:

$$\beta \rightarrow B + \left[\omega(\beta_{impov.}) + \beta_{enrich}\right] \rightarrow \beta_{enrich.} + \omega \rightarrow \beta_{enrich.} +$$

$$+ \alpha \rightarrow \alpha + \text{chem. compound}$$

Card 4/

S/180/61/000/006/014/020
E193/E383

18.9200

AUTHORS Ageyev, N.V., Karpinskiy, O.G., and Petrova, L.A. (Moscow)

TITLE Stability of the beta-solid solution in titanium-iron-vanadium alloys

PERIODICAL Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo no. 6, 1961, 127 - 129 + 1 plate

TEXT The object of the present investigation was to study the effect of a third component (V or Fe) on the stability of the α-phase in binary Ti-Fe or Ti-V alloys. The composition of the experimental alloys is given in a table. The alloys, melted several times in an argon-arc furnace, were hot-forged at 900 - 950 °C into rods measuring 9 x 9 x 100 mm. After machining-off the oxide skin, the rods were homogenized by a five-hour vacuum treatment at 900 °C, followed by furnace-cooling. The phase-transformations were studied by X-ray diffraction and hardness measurements. The results of examination of specimens quenched from 900 and 800 °C are given in Fig. 1 in the form of a metastable constitution diagram (the Ti, V and Fe contents

Card 1/6

3180

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S/180/61/000/006/014/019
E193/E383

are given in wt.%) alloys situated above the broken or continuous lines represent those in which the β-phase can be retained on quenching from 800 or 900 °C respectively, decomposition of the β-phase in alloys situated below these lines cannot be prevented by quenching and the alloys in this composition range consist of β- and α-phases. In the next series of experiments the alloys – and 10% solution-treated at 900 °C, were aged at various temperatures for various times. Typical results are reproduced in Fig. 2, showing the constitution of the Ti-3.74 Fe - 14.68 V (graph a) and Ti - 3.87 Fe - 16.68 V (graph б) alloys as a function of ageing temperature (vertical axis, °C) and time (horizontal axis, hrs). The continuous curves divide each diagram into the β, β+α and α+β regions, the numbers ascribed to the experimental points denote the Vickers hardness number of the alloy while the broken lines form boundaries of the maximum hardness regions. In general it was found that with increasing alloying addition content the precipitation of the α-phase in solution-treated

Card 2/4

Stability of the ....

Ti-Fe-V alloys aged at 400 °C was suppressed, the (β + ω) range became narrower, the quantity and particle-size of the ω-phase decreased and the hardness of the alloy was reduced to an extent which increased with increasing V content. It would appear that in alloys with 23 - 25% V and 3 - 4% Fe, aged at 400 °C, the (α + β) structure is formed directly from the β-solid solution without passing through the intermediate (β + ω) stage. The presence of additional (satellite) reflections on Laue photographs of specimens aged at 400 °C was taken to indicate the formation (in the initial stage of the process) of two-dimensional nuclei of the ω-phase surrounded by Ti-enriched β-solid solution. The size of these nuclei, calculated from the angular displacement of the satellite reflections, was ~ 220 Å. The satellite reflections disappeared on further ageing and the Laue photographs showed the lines of ω-phase and Ti-enriched β-solid solution only. It was concluded that decomposition of the β-solid solution in Ti-Fe-V alloys took place in the following manner:

Card 3/4

tability of the ....

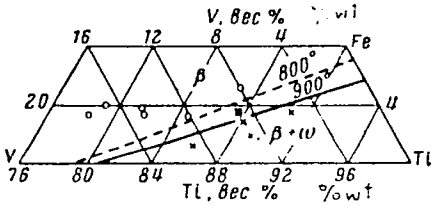
$$\beta \rightarrow \beta + \left[\omega(\beta_{impov.}) + \beta_{enrich.}\right] \rightarrow \beta_{enrich.} + \omega \rightarrow \beta_{enrich.} +$$

$$+ \alpha \rightarrow \alpha + \text{chemical compound.}$$

There are 3 figures, 1 table and 4 Soviet-bloc references.

SUBMITTED: March 3, 1961

Fig. 1:



Card 4/6

AGEYEV, N.V.; BARDINSKIY, O.G.; PETROVA, I.A.

Stability of a β-solid solution of titanium-chromium alloys.
Zhur.neorg.khim. 6 no.8:1976-1978 Ag '61. (MIRA 14:8)
(Titanium-chromium alloys) (Solutions, Solid)

AGEYEV, N.V.; PETROVA, L.A.

General laws governing the stabilization of beta-phase solid solutions in titanium alloys. Dokl.AN SSSR 138 no.2:359-360 My '61.
(MIRA 14:5)

1. Institut metallurgii im. A.A.Baykova Akademii nauk SSSR. 2. Chlen-korrespondent AN SSSR (for Ageyev).
(Titanium alloys) (Solutions, Solid)

AGEYEV, N.V. (Moskva); KARPINSKIY, O.G. (Moskva); PETROVA, L.A. (Moskva)

Reply to IU.A.Bagariatskii's and G.I.Nosova's letter. Izv.AN SSSR. Otd.tekh.nauk. Met.i topl. no.4:188 Jl-Ag '62. (MIRA 15:8)

(Titanium alloys--Metallography) (Bagariatskii, IU.A.) (Nosova, G.I.)

PETROVA, L. A. (Moskva)

Stabilization of beta-hard solutions in zirconium alloys.
Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.6:159-161
N-D '62. (MIRA 16:1)

(Zirconium alloys—Metallography)
(Phase rule and equilibrium)

S/598/62/000/007/002/040
D267/D307

AUTHORS: Ageyev, N. V. and Petrova, L. A.

TITLE: Stability of the ß-solid solution in titanium alloys

SOURCE: Akademiya nauk SSSR. Institut metallurgii, Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 26-34

TEXT: Earlier papers include metastable phase diagrams of titanium alloys with Fe, Mn, Ni, Mo, Cr, W. V and Nb, and data of the critical contents of alloying elements required to obtain a single-phase structure of ß-solid solutions. These phase diagrams belong to one of the main types: (1) Alloys quenched from the ß-phase region have the structure of metastable phases α', ω and ß; (2) in addition to these phases, also the α'' phase is present. Whereas the phases α' and α'' may exist in alloys either separately or in the presence of other phases, the ω phase always coexists with the α-phase, and is characterized by a high degree of dispersion. The critical content referred to above is the smaller, the farther the

Card 1/2

3 [illegible]
D2 [illegible]

27 2400

AUTHORS: Petrova, L. A. and Bel [illegible], N. N.

TITLE: Synthesis of the sulfur containing [illegible] ves

PERIODICAL: Zhurnal obshchey khimii, v [illegible]

TEXT: [illegible] aim of this work was to produce new [illegible] Vitamin B6 [illegible] pyridoxin [illegible] resistance against radiation. The [illegible] starting with [illegible] pyridine [illegible] compounds [illegible] chloromethyl [illegible] methyl [illegible] oxy 4-methoxy [illegible] heating I with [illegible] pyridine hydrochloride, white [illegible] was obtained [illegible] pyridine hydrochloride [illegible] chloromethyl [illegible] yield. By boiling II with [illegible] isothiouronium [illegible] C, in [illegible] % yield [illegible] oxy-4 methoxy [illegible] isothiouronium [illegible] of m.p. 165 [illegible] IV [illegible] 2 methyl [illegible] oxy-4 methoxy [illegible] methyl [illegible] in 85 % yield [illegible] pyridine hydrobr [illegible] pyridine [illegible] chloride (III) [illegible] di(bromomethyl)pyridine 5-bromme [illegible] oxy 4 [illegible] 5-di(bromomethyl [illegible] oxy 4-methoxy [illegible] tained 2 methyl [illegible] oxy [illegible] the yield was 77 %, m.p. [illegible] (V) by hydrolysis [illegible]

Card (1/3)

Synthesis of the sulfur-containing

respectively. The reaction products were

thoxy 5 isothiouronium methyl pyridine dihydrobromide was

The yield 78 % m.p. 170 172 C. Methyl 2 amino 4

5 amino pyridine trihydrobromide (VIII) was obtained by

methyl 2 amino 4 bromomethyl 5 aminomethyl pyridine (VII) with

ourea. VII was synthesized from 2 methyl 3 amino 4 methoxy methyl

5 aminomethyl pyridine by a method described in the Western

fore for another aminomethyl pyridine derivative. The

and VIII were

was % in all synthesized products. The yield

termined am

stituted ones. Experimental details are

references: 5 Soviet

the English language publications read as follows

Hughes J Chem

Chem

Card

33930
S/079/62/032/001/007/016
D202/D302

Synthesis of the sulfur-containing . . .

ASSOCIATION Institut eksperimentalnoy meditsiny Akademii meditsinskikh nauk SSSR, Leningrad (Institute of Experimental Medicine of the Academy of Medical Sciences USSR, Leningrad)

SUBMITTED: January 27, 1961

Card 3/3

L 13618-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4 JD/JG/MLK

ACCESSION NR: AT4046210 S/0000/63/000/000/0005/0009

AUTHOR: Ageyev, N. V. (Moscow); Karpinskiy, O. G. (Moscow); Petrova, L. A. (Moscow)

TITLE: Stability of β-solid solution in titanium-niobium and titanium-tungsten alloys

SOURCE: Yubileynaya konferentsiya po fiziko-khimicheskomu analizu. Novosibirsk, 1960. Fiziko-khimicheskiy analiz (Physicochemical analysis); trudy* konferentsii. Novosibirsk, Izd-vo Sib. otd. AN SSSR, 1963, 5-9

TOPIC TAGS: titanium base alloy, titanium niobium alloy, titanium tungsten alloy, beta titanium alloy, beta titanium stability, beta titanium stabilizer

ABSTRACT: The effect of niobium or tungsten on the stability of the β-phase and the mechanism of its decomposition in titanium-base alloys were studied. In titanium-niobium alloys with 36.8% Nb, a metastable β-phase can be preserved by quenching from 800C. In alloys with 34.6—36.5% Nb, quenched from the same temperature, the

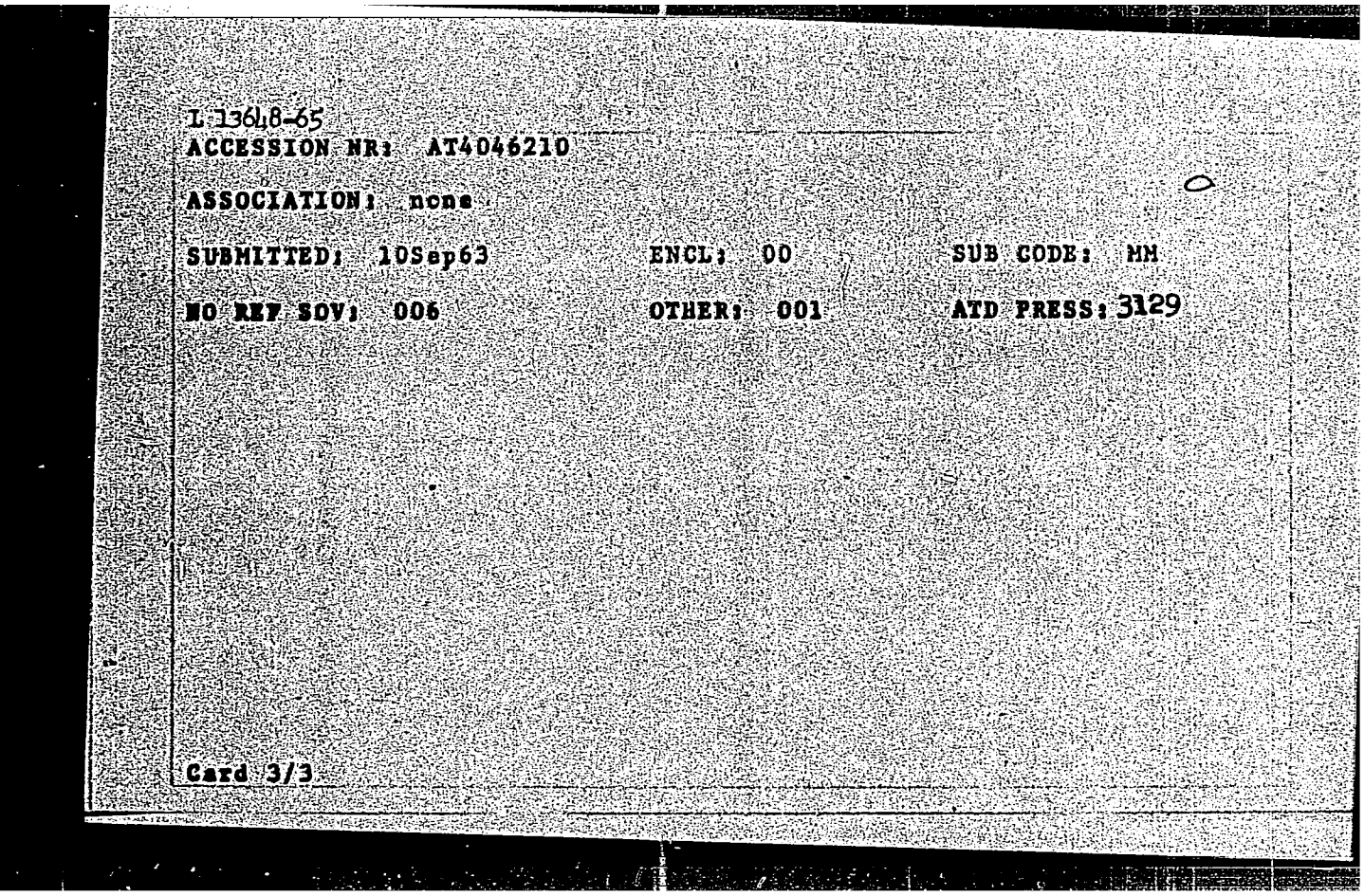
Card 1/3

L 13648-65

ACCESSION NR: AT4046210

β-phase was found to be partially decomposed. X-ray diffraction patterns of these alloys showed, in addition to the lines of β-phase, those of the α-phase, whose quantity increases with decrease in the niobium content and in the annealing temperature. It was found, however, that even in these alloys the β-phase can be preserved by an increase in the cooling rate. No ω-phase was found. In titanium-tungsten alloys with 26.64% W, the β-phase was preserved by quenching from 800C. Alloys with 16.05% W, quenched from 800—1200C, have an α-phase structure, and alloys with 24.08—25.15% W, a β + ω-structure. In the alloy with 37.44 Nb, quenched from 900C, the β-phase begins to decompose after 100hr at 100C, 16hr at 200C, or 1 hr at 500C. The primary product of decomposition is ω-phase, which then changes to α-phase. In the alloys with 26.64% or 28.64% W, quenched from 900C, the β-phase begins to decompose after 1 hr at 300C. At 400C, the β-phase decomposes immediately, with precipitation of the ω-phase. Although it was not possible precisely to compare the stability of β-phase of Ti-W with that of Ti-Ni, there is some reason to assume that tungsten is a stronger stabilizer of the β-phase than niobium. Orig. art. has: 4 figures and 2 tables.

Card 2/3



L 13648-65
ACCESSION NR: AT4046210

ASSOCIATION: none

SUBMITTED: 10Sep63 ENCL: 00 SUB CODE: MM

NO REF SOV: 006 OTHER: 001 ATD PRESS: 3129

Card 3/3

L 14320-65 EPF(n)-2/EWT(m)/EWP(b)/EWP(t) Pu-4 ASD(m)-3/AFTC(p)/IJP(c)
JD/JG/MLK

ACCESSION NR: AT4048053 S/0000/64/000/000/0058/0073

AUTHOR: Ageyev, N. V.; Glazunov, S. G.; Petrova, L. A.; Tarasenko, G. N.; Grankova, L. P.

TITLE: Stability of Beta alloys of the Ti-Mo-Cr-Fe-Al system 27 27 27 27 27

SOURCE: Soveshchaniye po metallurgii, metallovedeniyu i primeneniyu titana i yego splavov. 5th, Moscow, 1963. Metallovedeniye titana (Metallography of titanium); trudy* soveshchaniya. Moscow, Izd-vo Nauka, 1964, 58-73

TOPIC TAGS: alloy structure, Beta alloy, alloy phase transformation, titanium alloy, molybdenum alloy, chromium alloy, iron alloy, aluminum alloy

ABSTRACT: Previous studies have shown the critical concentration for the β-solid solution of another element in titanium to be between 6 and 9%, and that the most stable of these combinations are formed by rhenium, nickel, molybdenum, and tungsten. Recently, there has been much interest in multicomponent alloys with the metastable β-structure, which have high technological versatility when hardened. For these and other reasons the authors decided to study the Ti-Mo-Fe-Cr-Al system, both in its β-phase and with an eye to choosing alloys for more detailed experimentation. The samples chosen for experimentation had molybdenum in concentrations of wt. 2-8%, chromium from 4-9%, iron from 3-8%, titanium from 81-83%,

Card 1/2

L 14320-65
ACCESSION NR: AT4048053

and aluminum constant at 3%. All samples but one were held at 200C for 100 hours, and that one was held at 200C for 9 hours. Two samples were also held at 300C for 100 hours; all the remaining samples disintegrated. Four of them disintegrated with the precipitation of the W-phase, which lasted 100 hours longer; the others disintegrated with the precipitation of the α-phase. Samples which had 2 and 5% Mo did not depend, for the stability of their properties, on the corresponding amounts of chromium and iron within the limits studied. The samples with 2% Mo had amounts of chromium decreasing from 9.07 to 3.76% while the iron increased from 2.8 to 7.3%; the amount of chromium in samples with 5% Mo decreased from 9.40 to 4.08% while the amount of iron increased from 3.04 to 5%. In samples containing up to 5% each of iron and chromium, 1 or 2% more than 5% Mo did not significantly increase the stability of the β-alloy, and the delay in the process of disintegration is hardly worth the cost. Orig. art. has: 2 tables, 23 graphs, 11 photomicrographs, and 4 roentgenograms.

ASSOCIATION: none

SUBMITTED: 15Jul64 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 000

Card 2/2

PETROVA, L.A.

Stability of β-solid solution in the alloys zirconium-molybdenum-iron and zirconium-rhenium-iron. Zhur.neorg.khim. 8 no.2:373-375 F '63. (MIRA 16:5)

(Zirconium alloys) (Solutions, Solid)